service manual

marantz

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service data for the Marantz Model 29 Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced technicians only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Receiver.

The parts list furnishes information by which replacement parts may be orderd from the Marantz Company. A description is included for parts which can be usually obtained through local suppliers.

1. SERVICE NOTE

The Model 29 consists of following units. Each unit mounted on a printed circuit board is circumscribed by a bold dotted line on the circuit diagram.

1. FM Front End, MW Front End,
   FM/AM IF Amplifier, FM MPX
   Stereo Demodulator ..... mounted on PC board P100
2. FM Sub-IF Amplifier ..... mounted on PC board P200
3. Phono Amplifier ..... mounted on PC board P300
4. Tone Amplifier and Main Amplifier ..... mounted on PC board P400
5. Rectifiers and Power Supply ..... mounted on PC board P500
6. Loudness Control Unit, High
   and Low Filter Units ..... mounted on PC board P600
7. LW Front End Coil Unit ..... mounted on PC board P800

2. MW and LW TUNER

2-1. Circuit Description

This tuner consist of two PC board P100 and P800.

Most parts are mounted on the PC board P100 and coils of long wave band and trimming capacitors are mounted on PC board P800 ..

The MW front end is comprised of a converter and a diode. Signals induced in the ferrite-rod antenna L001 are roughly selected in the antenna tuning circuit. The selected signals are applied to the base of converter transistor H113 through coupling capacitor C117. The converter is a collector-emitter self oscillating circuit and the local oscillation signal appears at the base of H113. Both signals are then mixed at the base-emitter junction and converted into 455kHz intermediate frequency. The amplified IF signals are obtained from the collector of H113 and applied to the first IF transformer L113.

Diode H115, reverse-biased by resistors R113 and R114, eliminates signal overload distortion without sacrificing receiving sensitivity.

The IF signals are led to the IF amplifier consisting of two stages H114 and H106 and amplified to a high level. The amplified IF output is applied to diode H109 to detect audio signals. Then the detected audio signals are led to output pin J118 through filtering network. The DC component of the detected IF signals is used for AGC which affects the base bias current of H114. A part of IF signal output is also applied to diode H112 through capacitor C140 and rectified to obtain DC current to energize the tuning meter M001.

The long wave signals induced on an external antenna are first fed to a wave trap consisting of L801 and C805.

The trap is inserted to eliminate undesirable interference which may be caused in a high signal strength area.

The desired signals are then fed to the antenna tank circuit (L802/L804····) and finally to the base of converter transistor of H113 to obtain 455KHz IF signals.

2-2. Suggestions for Trouble Shooting of MW/LW Tuner

Symptom: No Reception.

First, try to tune stations by rotating flywheel tuning knob slowly and observe the tuning meter whether it deflects or not. If the tuning meter gives a deflection at several frequencies received, no failure exists in the stages at least preceeding IF transformer L115.

Next, connect an oscilloscope to tuner output pin J118 and check audio signals.

If the tuning meter does not deflect, check the local oscillator circuit. Normal oscillation voltage at the hot end of the oscillator capacitor is 2 to 3 volts, varying with tuning capacitor position. When measuring oscillation voltage use an RF VTVM, no circuit tester gives correct indication. If the local oscillation voltage is normal check all voltage distributions in the tuner circuit by using a circuit tester or VTVM and compare the measured values with those written in the schematic diagram.

3. FM TUNER

3-1. Circuit Description

The FM tuner section consists of four parts, FM front end, IF amplifier, MPX stereo decording circuit, and Sub-IF amplifier.

FM signals induced by an FM antenna are led to FM antenna coil L101. These signals are then applied to FET RF amplifier H101 and the amplified outputs are led to mixer H102 through a tuning circuit and converted into 10.7MHz IF signals. H103 is the local oscillator transistor. The AGC voltage, obtained by rectifing a part of the second IF amplifier output, is applied to the gate of FET H101 through filtering network R125, R101 and C129.

The converted IF signals are led to the IF amplifier circuit, consisting of three transistor amplifier stages and one IC limiter. The FM IF amplifier shares its third stage transistor H106 with the AM IF amplifier. The IF signal fully amplified is then applied to FM discriminator transformer L111 and demodulated into audible signals. The demodulated audio signals are then applied to the base of 19kHz pilot signal amplifier H116. This amplifier operates as an emitter follower for the audio

signals and has no voltage gain. The audio output is obtained from the emitter of H116 and applied to the center tap of 38kHz tuned transformer L118 through the 67kHz SCA trapping filter consisting of L119 and C163. The audio signals are split into right and left channel circuits by the diode-switching networks, then led to the crosstalk canceling amplifiers. When the demodulated audio signal is stereo composite signal, the 19kHz pilot signal amplifier operates as a tuned amplifier for the 19kHz pilot signal and as an emitter follower for the composite signal except 19kHz. The pilot signal, amplified by H116, is applied to H117 for further amplification. Then it is rectified by the full wave rectifier circuit consisting of diodes H121 and H122, thus provided 38kHz pulsating current drives 38kHz sub-carrier amplifier transistor H120, and 38kHz sub-carrier is obtained. The 38kHz sub-carrier and stereo composite signal, except 19kHz, are superimposed at the secondary coil of L118 and the composite signal is alternatively sampled by the right and left channel switching diodes at the rate of 38kHz. The sampled or separated outputs are led to the crosstalk canceling amplifier consisting of H127 and H128. Then led to tuner output pins J112 and J114 after canceling undesirable crosstalk.

The second 19kHz pilot signal amplifier H117 is so designed that the emitter circuit is electrically switched on and off by controling the bias current of switching transistor H118. The bias current is obtained from the Sub-IF amplifier circuit consisting of transistor H201, 10.7MHz IF transformer L201 and two diodes H202 and H203. The stereo switch on the front panel is connected between the base and emitter of switching transistor H118. Therefore, when the switch is in its normal "off" position, the base and emitter is short-circuited and no emitter current flows. Thus the emitter of the second 19kHz pilot signal amplifier is cut off and no 19kHz signal appears at the collector of H117. No stereo separation is obtained. When the stereo switch is depressed, the emiter-base short-circuit is opened and if the FM signal received is stronger than the pre-determined level, the DC voltage produced by diode H202 and H203 becomes large enough to drive the switching transistor H118, thus H118 is turned on and H117 begins to operate. H119 is also

turned on and it turns the stereo beacon switching transistor H120 turning the beacon lamp on.

The direct current developped between—B and diode H203 is used to drive FM tuning meter M001.

3-2. Suggestions for Trouble Shooting of FM Tuner

3-2-1. Symptom: No FM Reception

First, turn on the power switch and try to tune FM stations. Rotate the flywheel tuning knob slowly and observe the FM tuning meter. If the tuning meter deflects at several frequencies, the tuner circuit preceeding the limiter circuit may have no failure. Tune the set to a station and check the following points by using a high sensitivity oscilloscope: output of the FM discriminator test point Ⓑ, output of the 19kHz pilot signal amplifier test point Ⓗ, and Multiplex stereo output pin J112 or J114. When no reading is observed on the tuning meter, check the local oscillator circuit by using an RF VTVM. Normal local oscillation voltage is about 1 volts at the hot end of the tank circuit. If the oscillation voltage is normal, check all voltage distributions and compare them with those shown in the schematic diagram.

3-3-2. Symptom: No Stereo Separation

First, check the stereo switch is depressed. Connect FM RF signal modulated by stereo signal to the rear FM antenna terminals and check the stereo beacon lamp is turned on or not. When the lamp is not turned on, connect an oscilloscope to test point Ⓖ and observe 38kHz stereo sub-carrier is correctly generated or not.

4. TUNER ALIGNMENT

The following alignment for FM and MW/LW tuner requires many precision measuring equipments. No alignment should be performed in the field unless the service man has these equipments and enough knowledge in solid state amplifier components, since all the units are factory aligned and not become misaligned by themselves.

4-1. MW Front End

1) Set an AM signal generator to 600kHz, 400Hz 30% modulation. Tune the

receiver to the same frequency and adjust oscillator coil L112 until the dial pointer coincides with the 600kHz marking on the dial.

2) Set the AM signal generator to 1400kHz. Tune the receiver to the same frequency and adjust trimming capacitor C801-2 mounted on the PC board P800.
3) Repeat procedure 1 and 2 until no further adjustment is necessary between the low end and the high end.
4) Set the generator to 600kHz. Tune the receiver to the same frequency and adjust antenna coil L001 in the plastic case for maximum output.
5) Set the generator to 1400kHz. Tune the receiver to the same frequency and adjust antenna trimming capacitor C801-1 mounted on the tuning capacitor for maximum output
6) Repeat procedure 4) and 5) until no further improvement is obtained.

4-2. LW Front End

1) Set an AM signal generator to 150kHz, 400Hz 30% modulation. Tune the receiver to the same frequency and adjust oscillator coil L803 until the dial pointer coincides with the 150kHz marking on the dial.
2) Set the AM signal generator to 370kHz. Tune the receiver to the same frequency and adjust trimming capacitor C801-4 mounted on the PC board P800.
3) Repeat procedure 1 and 2 until no further adjustment is necessary between the low end and the high end.
4) Set the generator to 150kHz. Tune the receiver to the same frequency and adjust antenna coil L802 in the plastic case for maximum output.
5) Set the generator to 370kHz. Tune the receiver to the same frequency and adjust antenna trimming capacitor C801-3 mounted on the tuning capacitor for maximum output
6) Repeat procedure 4) and 5) until no further improvement is obtained.

Note. During tracking alignment, reduce the signal generator output as necessary to avoid AGC action.

4-3. AM IF Amplifier

To align the AM IF amplifier, a sweep generator with marker generator combined is necessary.

1) Connect the sweep generator across test point Ⓕ and common ground, connect an oscilloscope to test point Ⓒ.
2) Turn each primary and secondary core of IF trasformers L113, L114, and L115 for maximum and symmetrical response.

4-4. FM Front End

4-4-1. Local Oscillator Adjustment

1) Measuring instruments connection.
   Connect an FM signal generator to the FM antenna terminals on the back side of the set. Connect a VTVM or oscilloscope across the speaker system terminals.
2) Set the FM signal generator to 90MHz, 400Hz 100% modulation. Tune the receiver to the same frequency and adjust oscillator coil L104 until the dial pointer coincides with the 90MHz marking on the dial.
3) Set the FM signal generator to 106MHz. Tune the receiver to the same frequency and adjust trimming capacitor C190 until the dial pointer coincides with the 106MHz marking on the dial.
4) Repeat procedure 2 and 3 until no further adjustment is necessary between the low end and the high end.

4-4. FM Tracking Alignment

1) Set an FM signal generator to provide about 5μV at 90MHz. Tune the receiver to the same frequency and turn each core of L101 and L102 for maximum output
2) Set the FM signal generator to 106MHz. Tune the receiver to the same frequency and adjust trimming capacitors C184 and C185 for maximum output.
3) Repeat procedure 1) and 2) until no further improvement is obtained.

4-5. FM IF Amplifier

To align the FM IF amplifier, a high frequency sweep generator with 10.7MHz

marker generator combined is required. Connect the sweep generator to the T.P.Ⓓ, an oscilloscope to test point Ⓐ. Turn each primary and secondary core of IF transformers L107, L108, L109, and L110 for maximum and symmetrical response.

4-6. FM Discriminator

Connect an oscilloscope to test point Ⓑ and turn the primary and the secondary cores of discriminator transformer L111 for straight and symmetrical "S" curve with 10.7MHz marker center.

More precision adjustment of discriminator requires a distortion meter. To make this precision adjustment, connect an FM signal generator having low distortion characteristics to the antenna terminals of the set. Tune the set to the FM signal and measure the distortion of audio output. Turn the primary core of the discriminator transformer until minimum distortion is obtained.

4-7. FM Stereo Demodulator

A stereo multiplex and RF FM signal generator is required to make the separation adjustment on this circuit.

Perform the following adjustment in sequence.

1) Set the FM signal generator to 98MHz, 2KμV output level. Tune the receiver to the same frequency. Ensure that the stereo switch is depressed for stereo operation.
2) Connect an oscilloscope probe to test point Ⓖ and turn each core of L116, L117, and L118 for maximum stereo carrier wave on the CRT.
3) Turn the core of L118 again to obtain equal stereo separation in both of R and L channels.
4) Adjust trimming resistor R182 for maximum and equal stereo separation in both channels.

4-8. FM Sub-IF Amplifier

To align the sub-IF amplifier, tune the receiver to an FM signal and turn the core of L201 so that the FM tuning meter reads maximum deflection.

5. MAIN AMPLIFIER

5-1. Circuit Description

5-1-1. Amplifier

The audio signals selected by the selector switch S002-3F are led to the tone amplifier through stereo switch S601-2, tape monitor switch S601-1 and the volume control with loudness control network. The signals are applied through coupling capacitor C401 and resistor R401 to the base of H401. The amplified output of H401 is led to the base of H403 and its out to the tone control circuit. After bass and treble controlled, the signals are applied to the two stage amplifier consisting of H405 and H409.

The output of H409 is applied to the base of H411 and H413. These two transistors are operated in a complementary-symmetry configuration with their respective power transistors H001 and H002.

The output of H411 is applied to the base of H001, and that of H413 to H002. Combined operation of PNP transistor H413 and NPN transistor H411 with NPN power transistors H001 and H002 provides a single-ended push-pull output.

This output is applied to loudspeaker output terminals through speaker switch and headphones jacks.

To maintain overall stability and linearity, negative feedback is utilized throughout the amplifier. This feedback is also necessary to reduce distortion to be well under the specified limits. R441 and C427 condition the feedback loop gain.

5-1-2. Dynamic Bias

Dynamic bias is applied to the bases of driver trasistors H411 and H413. H411 and H413 determine the class of operation for the power amplifier transistors H001 and H002, respectively, thus maintaining a constant class of operation by establishing and maintaining proper collector-to-emitter current. This dynamic bias circuit consists of adjusting resistor R455 and temperature sensitive diodes H702, and H704. The circuit provides a variable base bias for driver transistors H411,

and H413 and automatically maintains proper base voltage, bias condition, with temperature change.

5-1-3. Power Transistor Protection Circuit

If an excessive current flow in the power transistor H001 and H002, voltage across the resistor R477 is increased and this turns on the transistor H407, thus the input signals to the transistor H405 is by passed.

Thus power transistors are protected from destroy due to excessive curret flowing.

5-2. DC Balance and Bias Adjustment of the Main Amplifier

5-2-1. DC Balance Adjustment

Connect an oscilloscope and a dummy load(8 ohms) across the speaker system output terminals for the channel being tested and an audio oscillator (1000Hz) to the AUX jack on the rear panel. Set the Bass, Treble and Balance controls flat or center position, the Volume control maximum. Turn the bias control resistor R455 fully clockwise. Adjust DC balance control R453 until equal clipping level is obtained for both polarities. Repeat the same procedure for the other channel.

Note. During DC balance adjustment, adjust the output level of the audio oscillator to show the clipping level on the CRT precisely.

5-2-2. Bias Adjustment

Give no input signal and connect a VTVM across resistor R475 or R477. Adjust the bias control resistor R455 until the VTVM reads 8mV. Ensure no crossover distortion is observed on the CRT with a faint signal input from an audio oscillator. To adjust the other channel, connect the VTVM across resistor R476 or R478 and adjust bias control resistor R456 for the same voltage reading.

5-3. Suggestions for Trouble Shooting of Power Amplifier

5-3-1. Excessive line consumption

1) Check for shorted rectifiers H502, H503, H504, H505, H506, H507, and H508, also check C501, C502, C503, and C504, C507.

2) Check for shorted transistors H411~H414. Check for open control resistor R455 and R456 and bias diodes H415, H416, H701~H704

3) Check L003 for short.

CAUTION: Because the driver and output stages are direct coupled, components may fail as a direct result of an initial component failure. If a shorted or open transistor, diode, or control resistor is found be sure to check the remaining driver and output components for short or open circuits before re-energizing the amplifier.

5-3-2. No line consumption or zero bias

1) Check line cord, over current circuit breaker, and bias diodes H415, H416, and H701~H704.

2) Check for open rectifiers H505, H506, H507, and H508, or open L003.

6. PHONO AMPLIFIER

The phono amplifier consists of conventional negative feed-back amplifier and no analytical circuit description may be required.

7. POWER SUPPLY UNIT

The power supply unit provides three different DC outputs of +40V, −11V and −2.6V. +38V output is obtained by bridge connected rectifiers H505, H506, H507, and H508 and filtering capacitor C503. This source energizes the power and tone amplifier and the phono amplifier.

Two rectifiers H503 and H504 are engaged in the rectification for−11V output. This output is well regulated by zener diode H501 and concerns with FM front end, MW /LW front end, FM/AM IF amplifier, MPX stereo demodulator, and Sub-IF amplifier.

The power supply unit has another DC output of−2.6V for stereo beacon lamp operation.

8. TEST EQUIPMENTS FOR SERVICING

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal Source for AM Alignment
Test Loop		Used with AM Signal Generator
FM Signal Generator	Less than 0.3% distortion	Signal source for FM Alignment
Audio Oscillator	Less than 0.02% residual distortion is required	Sine wave source for modulating AM or FM Signal Generator, and trouble shooting.
Stereo Modulator	Less than 0.3% distortion	Modulating FM Signal Generator for Separation Alignment and trouble shooting.
Oscilloscope	high sensitivity	Wave form analysis and trouble shooting
VTVM	with RF probe	Trouble shooting
Circuit Tester		Trouble shooting
Sweep Generator	For 455KHz and 10.7MHz	AM and FM IF alignment
8-ohm Resistors	±0.5% 50W no inductive	Dummy Load
Line Voltmeter	0 − 150V AC	Monitors line voltage
Variable Autotrans-former	0− 140V, 10A	Primary power voltage adjustment

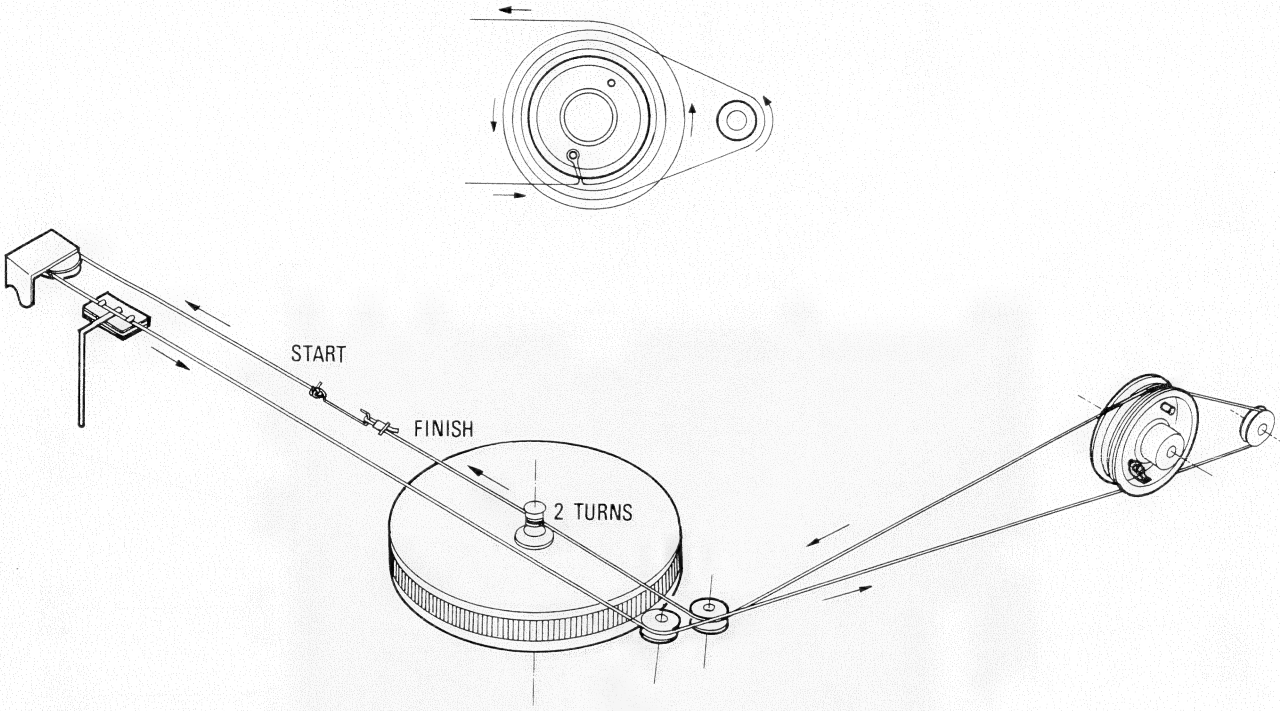

Fig. 1 Dial Stringing Diagram

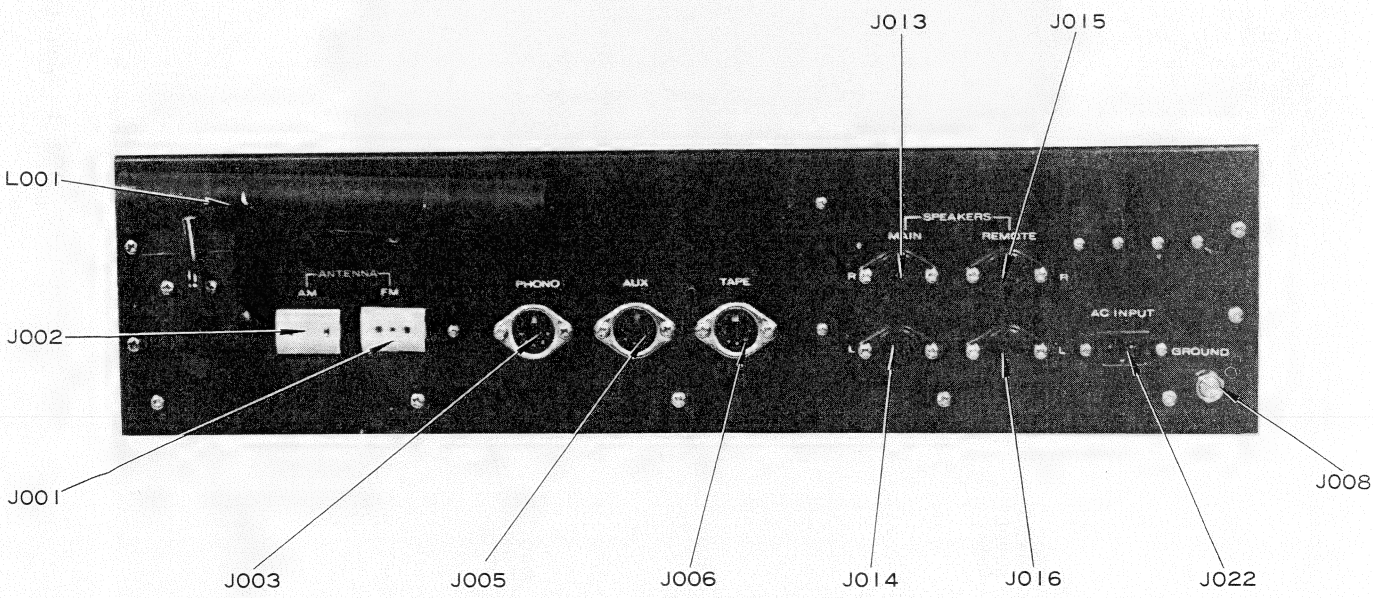

Fig. 2 Rear Panel Component Locations

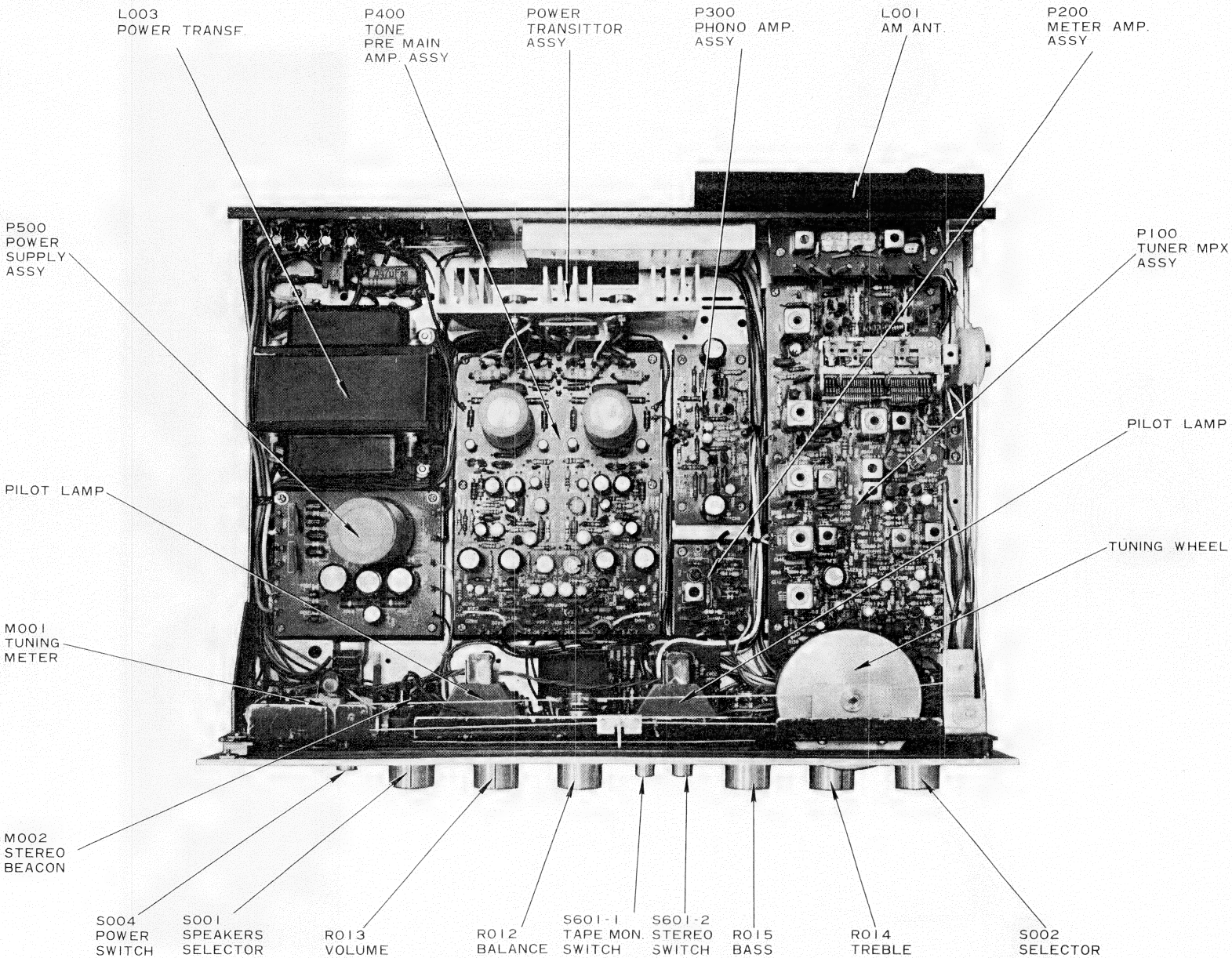

Fig. 3 Main Chassis Adjustment and Component Locations

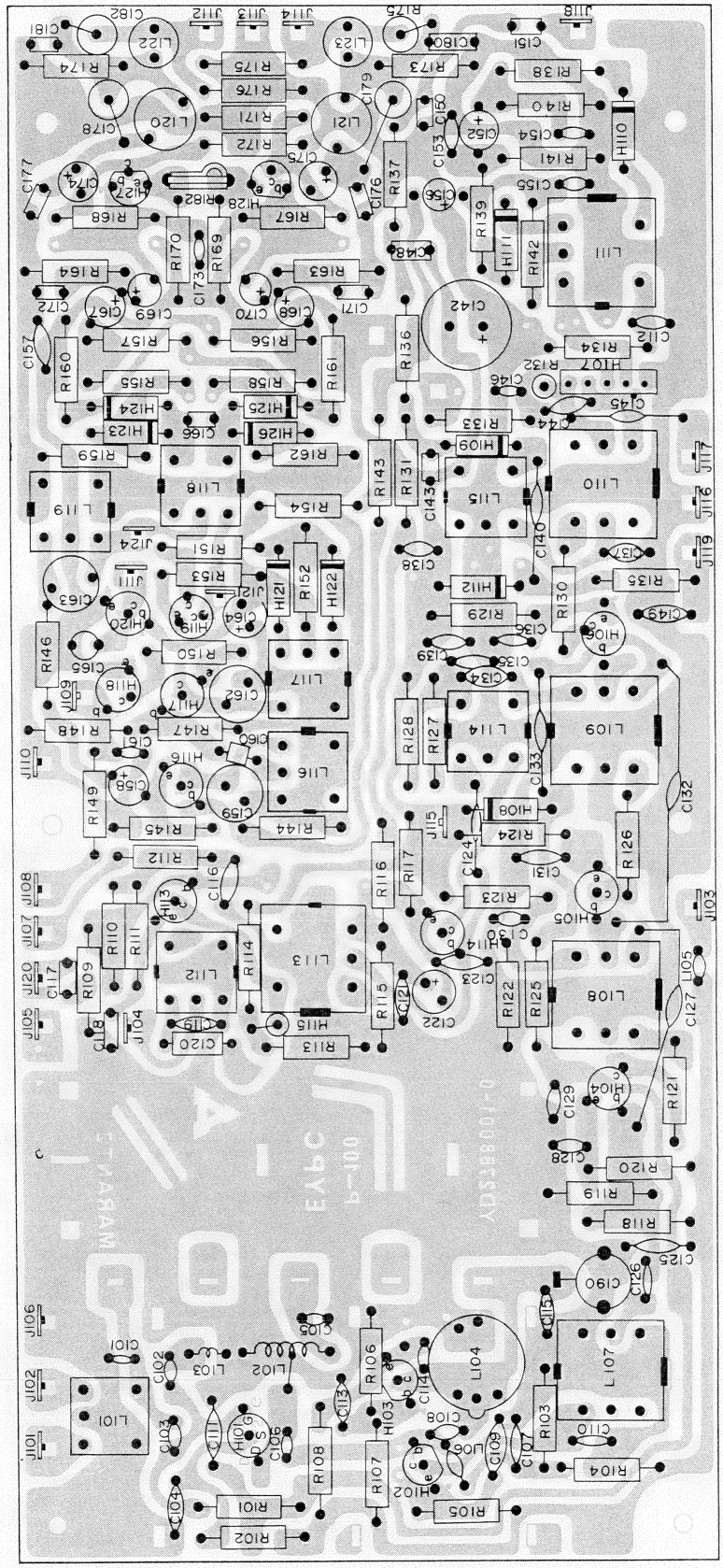

Fig. 4 AM/FM/FM MPX Tuner Circuit

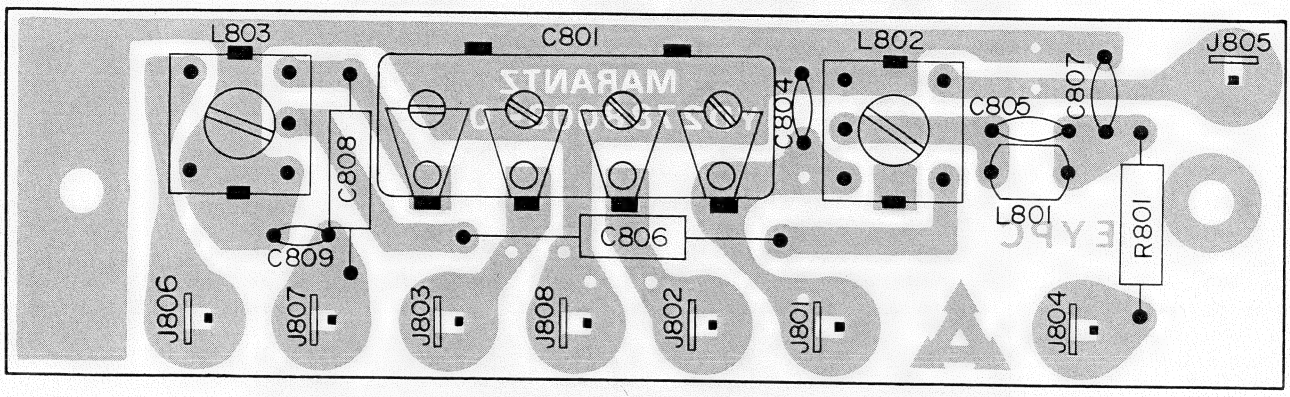

Fig. 5 LW/MW Coil Unit

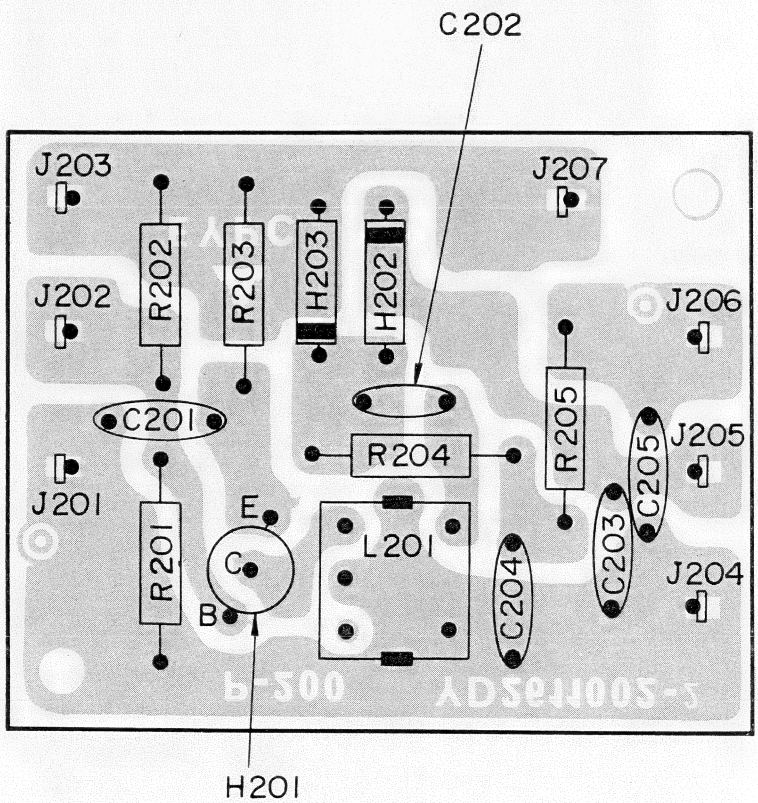

Fig. 6 FM Sub IF Amplifier

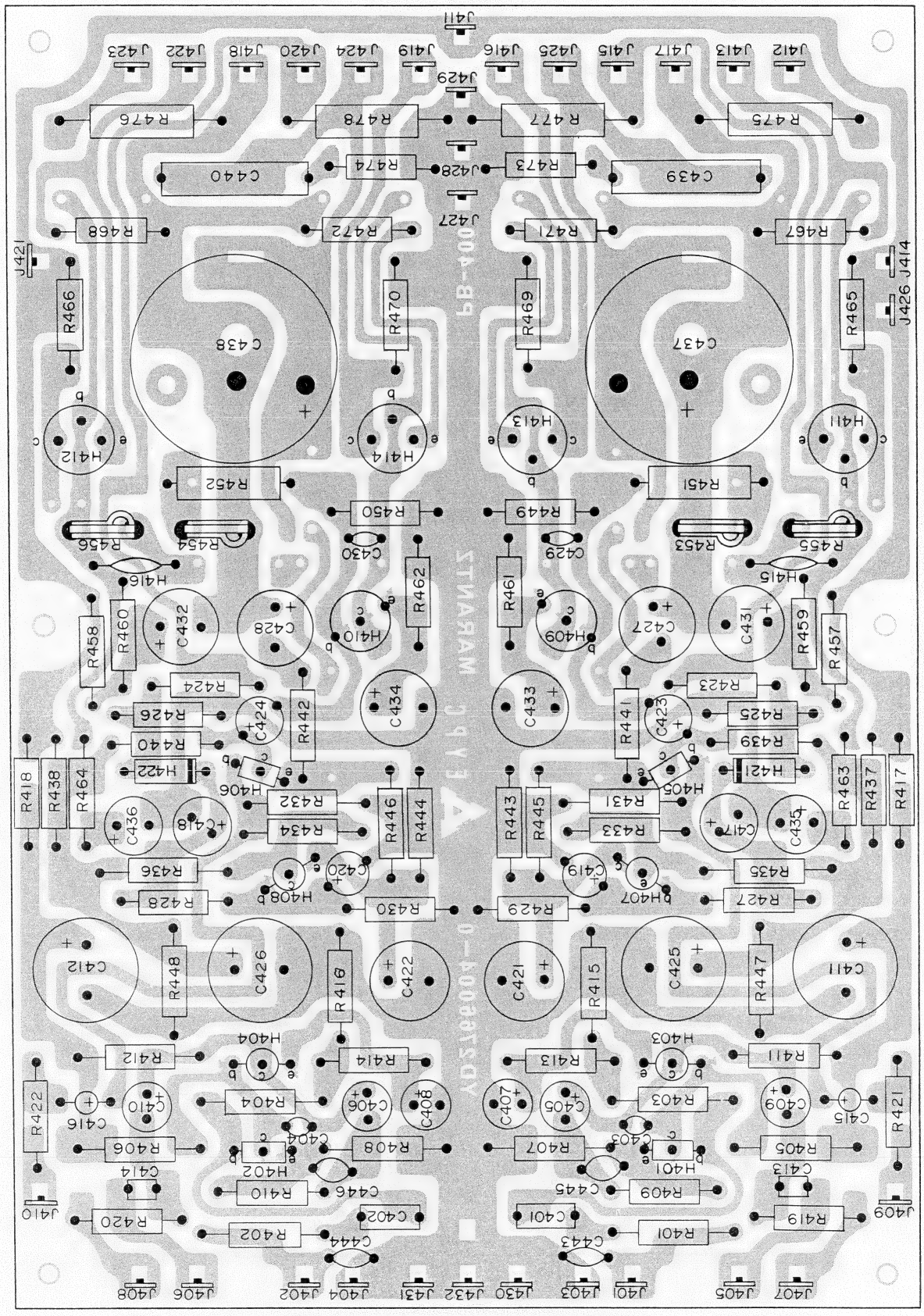

Fig. 7 PRE/MAIN Power Amplifier

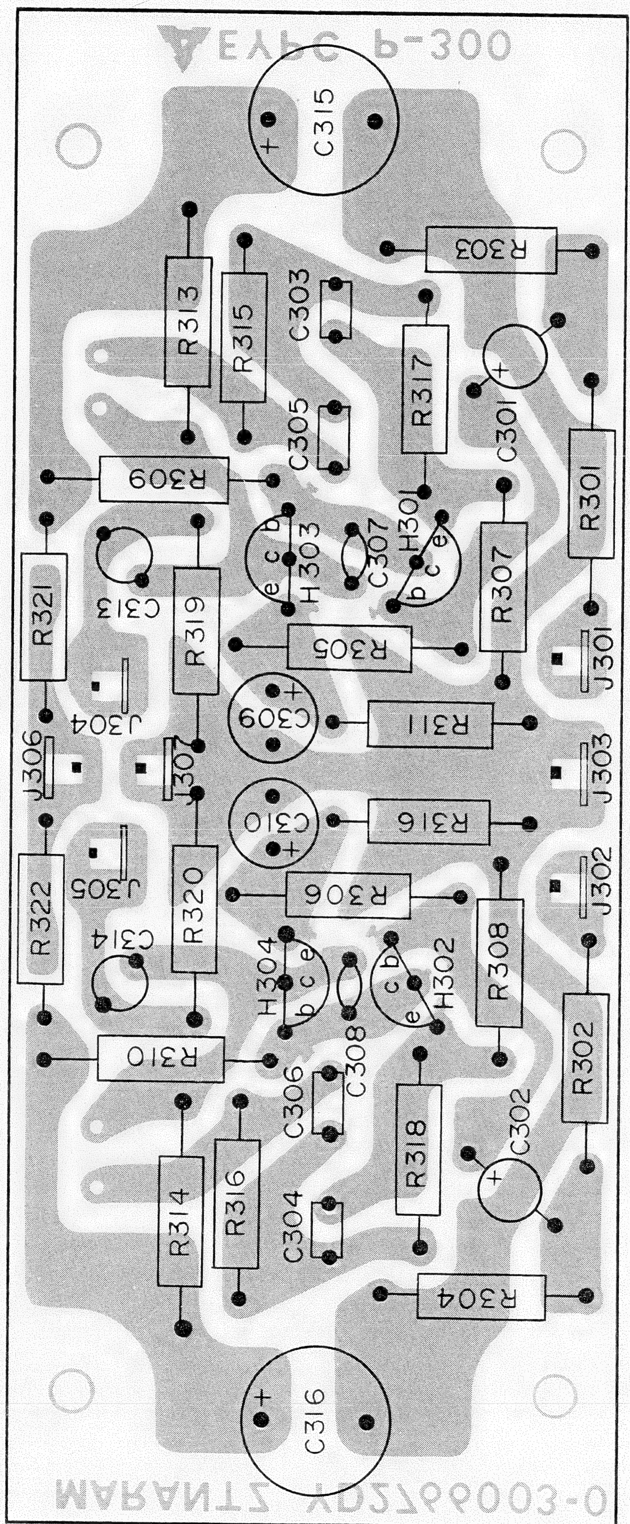

Fig. 8 Phono Amplifier

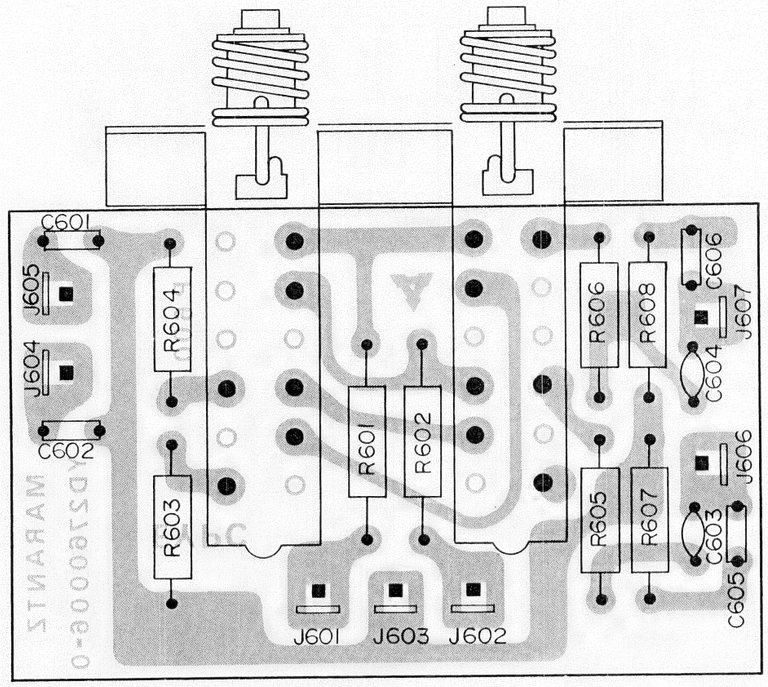

Fig. 9 Tape Mon. Circuit

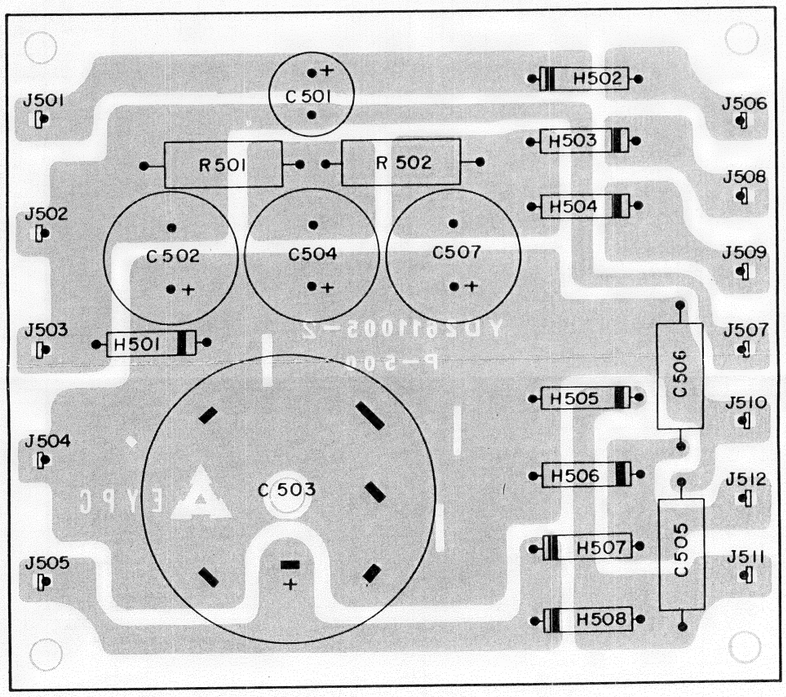

Fig. 10 Power Supply Unit

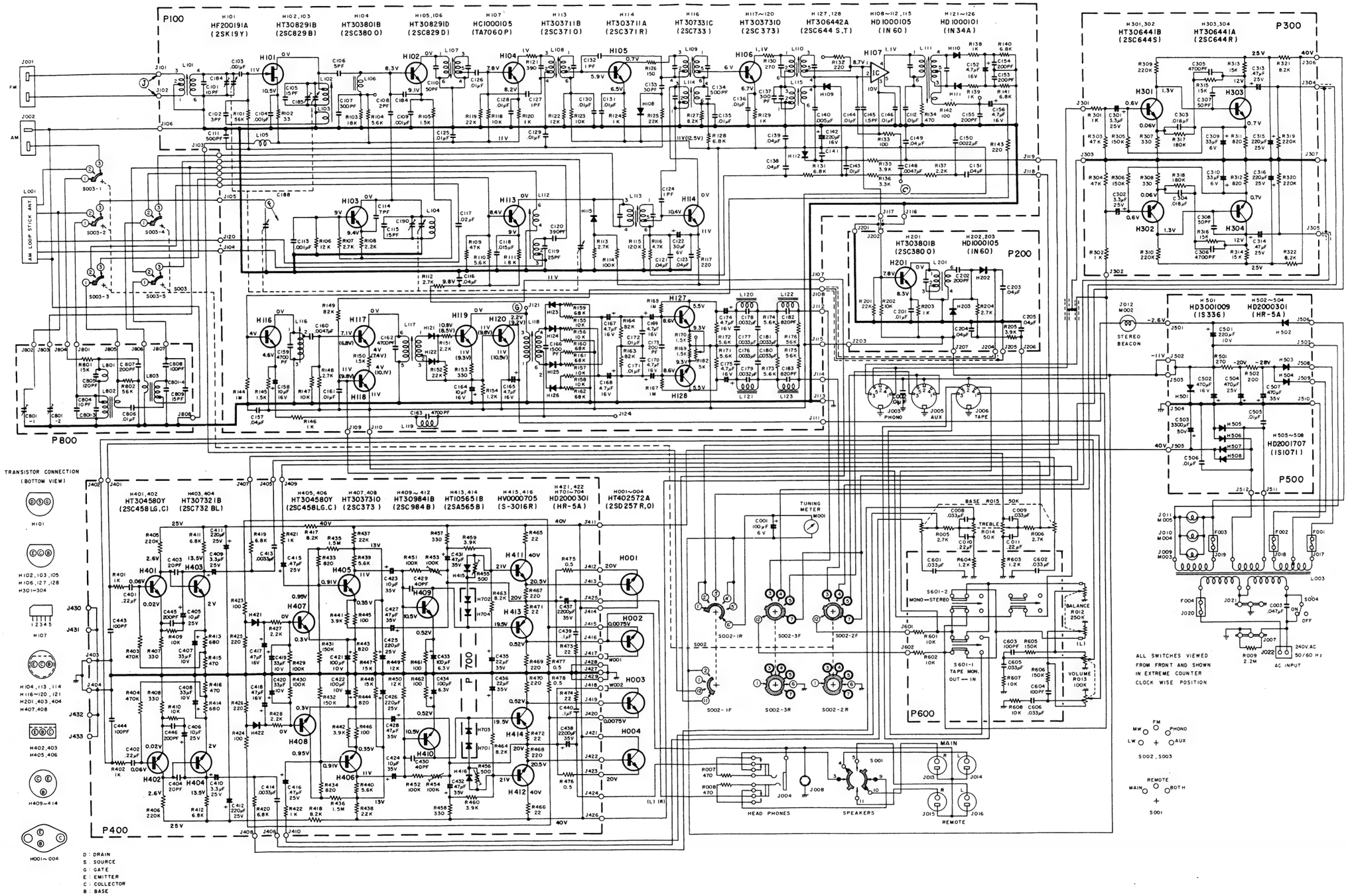

Fig. 11 Schematic Diagram

PARTS LIST

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
A001	2788063010	Escutcheon
A002	2611257012	Lid
A003	2611103013	Pointer
A004	2788265010	Indicator
A005	2788265020	Indicator
A009	2577273010	Fly Wheel
A010	2577063022	Escutcheon
A011	2577063032	Escutcheon
A012	2577067022	Cap
A013	2577067022	Cap
A014	2577067022	Cap
A018	2578067010	Cap
A019	2578067010	Cap
A020	2578067010	Cap
A021	2578067010	Cap
A022	2578067010	Cap
A023	2578067010	Cap
A531	2788302010	Dial
A532	2766053010	Cover
A533	2577154020	Knob
A534	2577154020	Knob
A535	2577154020	Knob
A544	2578154010	Knob
A545	2578154010	Knob
A546	2578154010	Knob
A547	2578154010	Knob
A548	2578154010	Knob
A549	2578154010	Knob
B001	2788105010	Chassis
B002	2760160505	Bracket K
B401	2760160015	Bracket
B402	2577101020	Support
B403	2577112020	Shaft
B404	2766160022	Bracket
B008	2788160020	Bracket
B009	2611160030	Bracket
B010	2611160030	Bracket
B011	2611160040	Bracket
B012	2611160050	Bracket
B013	2611257022	Lid
B015	2611005010	Clamper
B021	2788160500	Bracket K
B405	2788160040	Bracket
B406	2517112020	Shaft
B407	2577112020	Shaft
B026	2506109010	Shield
B028	2611109020	Shield
B029	2611109020	Shield
B030	2766267013	Heat Sink
B032	2611055010	Collar
B033	2611055010	Collar
B034	2611055020	Collar
B035	2611055020	Collar
B036	2760109010	Shield
B037	2611109020	Shield
B038	2760160030	Bracket
B041	2577112012	Shaft
B043	2577106500	Bearing K
B408	2577104010	Retainer
B409	2577106010	Bearing
B047	2578160522	Bracket K
B410	2578160052	Bracket
B411	2578160062	Bracket
D401	5502030410	R. H Rivet
D402	5502030410	R. H Rivet
B054	71400219Q0	Spring
B055	71101239M0	Spring
B061	2597160500	Bracket K
B412	2597160030	Bracket
B413	2597160040	Bracket
B414	2597112010	Shaft
B415	1336112010	Shaft
B067	1202258010	Hook
B068	1382005030	Clamper
B069	1382005030	Clamper
B070	1382005030	Clamper
B071	1382005030	Clamper
B072	1382005030	Clamper
B073	1382005030	Clamper
B074	1382005030	Clamper
B075	1382005030	Clamper
B076	2788160010	Bracket
B077	2788160030	Bracket
B079	2788101010	Support
B080	2788101010	Support
B081	2788101010	Support
B082	2788101010	Support
B083	2788101010	Support
B084	2788101010	Support
B085	2788125010	Joint
B501	2760053012	Cover
B502	2760053020	Cover
B503	2760267010	Heat Sink
B504	2760267010	Heat Sink
B505	2760267010	Heat Sink
B506	2577106020	Bearing
B507	2577053030	Cover
B508	2577053042	Cover
B509	2788053012	Cover
B510	2760267010	Heat Sink
B511	2577118030	Spacer
B512	2577118040	Spacer
B513	2766118010	Spacer
B514	2577159020	Drum
B515	2577262010	Pulley
B516	2577262010	Pulley
B517	2577262010	Pulley
B518	2763259010	Bush
B519	2760118010	Spacer
B520	1271262010	Pulley
B521	2506057010	Leg
B522	2506057010	Leg
B523	2506057010	Leg
B524	2506057010	Leg
B527	1455120010	Insulator
B528	1455259010	Bush
B529	1415118010	Spacer
B530	72081604A0	String

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
B531	73033010A0	Buffer
B532	73033010A0	Buffer
B533	1455120010	Insulator
B534	2611118010	Spacer
B535	2611118010	Spacer
D001	51570305B0	P. H Tapt Screw
D002	51570305B0	P. H Tapt Screw
D003	51570305B0	P. H Tapt Screw
D004	51570305B0	P. H Tapt Screw
D005	51570305B0	P. H Tapt Screw
D006	51570305B0	P. H Tapt Screw
D007	51570305B0	P. H Tapt Screw
D008	51570305B0	P. H Tapt Screw
D009	51570305B0	P. H Tapt Screw
D010	51570305B0	P. H Tapt Screw
D011	51570305B0	P. H Tapt Screw
D012	51570305B0	P. H Tapt Screw
D013	51570305B0	P. H Tapt Screw
D014	51570305B0	P. H Tapt Screw
D015	51570305B0	P. H Tapt Screw
D016	51570305B0	P. H Tapt Screw
D017	51570305B0	P. H Tapt Screw
D023	51570305B0	P. H Tapt Screw
D024	51570305B0	P. H Tapt Screw
D025	51570305B0	P. H Tapt Screw
D026	51570305B0	P. H Tapt Screw
D027	51570305B0	P. H Tapt Screw
D028	51570305B0	P. H Tapt Screw
D029	51570305B0	P. H Tapt Screw
D030	51570305B0	P. H Tapt Screw
D031	51570305B0	P. H Tapt Screw
D032	51570305B0	P. H Tapt Screw
D033	51570305B0	P. H Tapt Screw
D034	51570305B0	P. H Tapt Screw
D042	51570305B0	P. H Tapt Screw
D043	51570305B0	P. H Tapt Screw
D044	51570305B0	P. H Tapt Screw
D045	51570305B0	P. H Tapt Screw
D046	51570305B0	P. H Tapt Screw
D047	51570305B0	P. H Tapt Screw
D048	51570305B0	P. H Tapt Screw
D049	51570305B0	P. H Tapt Screw
D050	51570305B0	P. H Tapt Screw
D051	51570305B0	P. H Tapt Screw
D052	51570305B0	P. H Tapt Screw
D053	51570305B0	P. H Tapt Screw
D054	51570305B0	P. H Tapt Screw
D055	51570306B0	P. H Tapt Screw
D056	51570308B0	P. H Tapt Screw
D057	51570308B0	P. H Tapt Screw
D058	51570308B0	P. H Tapt Screw
D059	51570308B0	P. H Tapt Screw
D060	51570308B0	P. H Tapt Screw
D061	51570308B0	P. H Tapt Screw
D062	51570308B0	P. H Tapt Screw
D063	51570308B0	P. H Tapt Screw
D066	51062605E0	P. H. M Screw
D067	51062605E9	P. H. M Screw
D068	51062605E9	P. H. M Screw
D069	51062605E9	P. H. M Screw
D070	51062605E9	P. H. M Screw
D071	51062605E9	P. H. M Screw
D072	51062608E9	P. H. M Screw
D073	51062608E9	P. H. M Screw
D074	51062608E9	P. H. M Screw
D075	51062608E9	P. H. M Screw
D081	51060305E9	P. H. M Screw
D082	51060305E9	P. H. M Screw
D083	51060305E9	P. H. M Screw
D084	51060305E9	P. H. M Screw
D085	51060305E9	P. H. M Screw
D086	51060305E9	P. H. M Screw
D087	51060305E9	P. H. M Screw
D088	51060305E9	P. H. M Screw
D089	51060305E9	P. H. M Screw
D090	51060305E9	P. H. M Screw
D091	51060305E9	P. H. M Screw
D092	51060305E9	P. H. M Screw
D093	51060305E9	P. H. M Screw
D094	51060305E9	P. H. M Screw
D095	51060305E9	P. H. M Screw
D096	51060305E9	P. H. M Screw
D097	51060305E9	P. H. M Screw
D098	51060305E9	P. H. M Screw
D099	51060305E9	P. H. M Screw
D100	51060305E9	P. H. M Screw
D101	51060305E9	P. H. M Screw
D102	51060305E9	P. H. M Screw
D103	51060305E9	P. H. M Screw
D104	51060305E9	P. H. M Screw
D105	51060305E9	P. H. M Screw
D106	51060305E9	P. H. M Screw
D107	51060305E9	P. H. M Screw
D108	51060305E9	P. H. M Screw
D109	51060305E9	P. H. M Screw
D110	51060305E9	P. H. M Screw
D111	51060306E9	P. H. M Screw
D112	51060306E9	P. H. M Screw
D113	51060306E9	P. H. M Screw
D114	51060306E9	P. H. M Screw
D115	51060306E9	P. H. M Screw
D121	51060305E9	P. H. M Screw
D122	51060305E9	P. H. M Screw
D123	51060305E9	P. H. M Screw
D124	51060305E9	P. H. M Screw
D125	51060305E9	P. H. M Screw
D126	51060306E9	P. H. M Screw
D129	51060308E9	P. H. M Screw
D130	51060308E9	P. H. M Screw
D132	51060312E9	P. H. M Screw
D133	51060312E9	P. H. M Screw
D136	51060406E9	P. H. M Screw
D137	51060406E9	P. H. M Screw
D138	51060406E9	P. H. M Screw
D139	51060406E9	P. H. M Screw
D141	51060408E9	P. H. M Screw
D142	51060408E9	P. H. M Screw
D143	51060408E9	P. H. M Screw
D144	51060408E9	P. H. M Screw
D146	51060410E9	P. H. M Screw
D147	51060410E9	P. H. M Screw
D148	51060410E9	P. H. M Screw
D149	51060410E9	P. H. M Screw
D150	51060410E9	P. H. M Screw
D151	51060410E9	P. H. M Screw
D152	51060410E9	P. H. M Screw

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
D161	51140305E9	O. C. H. M Screw
D162	51140305E9	O. C. H. M Screw
D163	51140305E9	O. C. H. M Screw
D164	51140305E9	O. C. H. M Screw
D167	51140305E9	O. C. H. M Screw
D168	51140305E9	O. C. H. M Screw
D171	53112603E0	Hexagon Nut
D172	53112603E0	Hexagon Nut
D173	53112603E0	Hexagon Nut
D174	53112603E0	Hexagon Nut
D176	53110303E9	Hexagon Nut
D177	53110303E9	Hexagon Nut
D180	53110403E9	Hexagon Nut
D181	53110403E9	Hexagon Nut
D182	53110403E9	Hexagon Nut
D183	53110403E9	Hexagon Nut
D184	53110403E0	Hexagon Nut
D185	59030810P0	Washer
D186	59030810P0	Washer
D187	59030810P0	Washer
D188	59030810P0	Washer
D189	59030810P0	Washer
D190	59030810P0	Washer
D191	53110603E0	Washer
D201	51122608E0	T. H. M Screw
D202	51122608E0	T. H. M Screw
D206	51100406S9	B. H. M Screw
D207	51100406S9	B. H. M Screw
D208	51100406S9	B. H. M Screw
D209	51100406S9	B. H. M Screw
D211	54052600R0	T. L Washer OR
D212	54052600R0	T. L Washer OR
D213	54050300R0	T. L Washer OR
D214	54050400R0	T. L Washer OR
D216	54040302N0	Spring Washer
D217	54040302N0	Spring Washer
D220	54040402N0	Spring Washer
D221	54040402N0	Spring Washer
D222	54040402N0	Spring Washer
D223	54040402N0	Spring Washer
D224	54040402N0	Spring Washer
D225	54040402N0	Spring Washer
D226	54040402N0	Spring Washer
D227	54040402N0	Spring Washer
D228	54040402N0	Spring Washer
D231	62031650W0	Lug
D232	62041760W0	Lug
D241	54040602B0	Spring Washer
D250	54050400R0	T. L Washer OR
D253	54020401S0	Flat Washer P
D254	54020401S0	Flat Washer P
D255	54020401S0	Flat Washer P
D256	54020401S0	Flat Washer P
D258	62041760W0	Lug
D261	51640412D9	Set Screw C. P
D263	51650304D9	Set Screw H. P
D264	51650304D9	Set Screw H. P
D267	64002400R0	RG Ring E
D268	64002400R0	RG Ring E
D269	64002400R0	RG Ring E
D270	64002400R0	RG Ring E
D271	56382040G0	Eyelet
D274	59030810P0	Washer

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
D275	59030810P0	Washer
P100	YD27880010	FM/AM/MPX Front End P.C Board
R101	RT10563140	56KΩ ±10% ¼W, Carbon Film
R102	RT10330140	33Ω ±10% ¼W, Carbon Film
R103	RT10183140	18KΩ ±10% ¼W, Carbon Film
R104	RT10562140	5.6KΩ ±10% ¼W, Carbon Film
R105	RT10152140	1.5KΩ ±10% ¼W, Carbon Film
R106	RT10123140	12KΩ ±10% ¼W, Carbon Film
R107	RT10272140	2.7KΩ ±10% ¼W, Carbon Film
R108	RT10222140	2.2KΩ ±10% ¼W, Carbon Film
R109	RT10393140	39KΩ ±10% ¼W, Carbon Film
R110	RT10562140	5.6KΩ ±10% ¼W, Carbon Film
R111	RT10222140	2.2KΩ ±10% ¼W, Carbon Film
R112	RT10272140	2.7KΩ ±10% ¼W, Carbon Film
R113	RT10152140	1.5KΩ ±10% ¼W, Carbon Film
R114	RT10823140	82KΩ ±10% ¼W, Carbon Film
R115	RT10124140	120KΩ ±10% ¼W, Carbon Film
R116	RT10472140	4.7KΩ ±10% ¼W, Carbon Film
R117	RT10221140	220Ω ±10% ¼W, Carbon Film
R118	RT10103140	10KΩ ±10% ¼W, Carbon Film
R119	RT10223140	22KΩ ±10% ¼W, Carbon Film
R120	RT10102140	1KΩ ±10% ¼W, Carbon Film
R121	RT10391140	390Ω ±10% ¼W, Carbon Film
R122	RT10123140	12KΩ ±10% ¼W, Carbon Film
R123	RT10103140	10KΩ ±10% ¼W, Carbon Film
R124	RT10102140	1KΩ ±10% ¼W, Carbon Film
R125	RT10223140	22KΩ ±10% ¼W, Carbon Film
R126	RT10151140	150Ω ±10% ¼W, Carbon Film
R127	RT10822140	8.2KΩ ±10% ¼W, Carbon Film
R128	RT10682140	6.8KΩ ±10% ¼W, Carbon Film
R129	RT10102140	1KΩ ±10% ¼W, Carbon Film
R130	RT10271140	270Ω ±10% ¼W, Carbon Film
R131	RT10682140	6.8KΩ ±10% ¼W, Carbon Film
R132	RC10221120	220Ω ±10% ½W, Solid
R133	RT10101140	100Ω ±10% ¼W, Carbon Film
R134	RT10471140	470Ω ±10% ¼W, Carbon Film
R135	RT10392140	3.9KΩ ±10% ¼W, Carbon Film
R136	RT10332140	3.3KΩ ±10% ¼W, Carbon Film
R137	RT10222140	2.2KΩ ±10% ¼W, Carbon Film
R138	RT10102140	1KΩ ±10% ¼W, Carbon Film
R139	RT10102140	1KΩ ±10% ¼W, Carbon Film
R140	RT10682140	6.8KΩ ±10% ¼W, Carbon Film
R141	RT10682140	6.8KΩ ±10% ¼W, Carbon Film
R142	RT10101140	100Ω ±10% ¼W, Carbon Film
R143	RT10221140	220Ω ±10% ¼W, Carbon Film
R144	RT10105140	1MΩ ±10% ¼W, Carbon Film
R145	RT10152140	1.5KΩ ±10% ¼W, Carbon Film
R146	RT10102140	1KΩ ±10% ¼W, Carbon Film
R147	RT10103140	10KΩ ±10% ¼W, Carbon Film
R148	RT10332140	3.3KΩ ±10% ¼W, Carbon Film
R149	RT10823140	82KΩ ±10% ¼W, Carbon Film
R150	RT10821140	820Ω ±10% ¼W, Carbon Film
R151	RT10222140	2.2KΩ ±10% ¼W, Carbon Film
R152	RT10223140	22KΩ ±10% ¼W, Carbon Film
R153	RT10331140	330Ω ±10% ¼W, Carbon Film
R154	RT10122140	1.2KΩ ±10% ¼W, Carbon Film
R155	RT10103140	10KΩ ±10% ¼W, Carbon Film
R156	RT10103140	10KΩ ±10% ¼W, Carbon Film
R157	RT10103140	10KΩ ±10% ¼W, Carbon Film
R158	RT10103140	10KΩ ±10% ¼W, Carbon Film
R159	RT10683140	68KΩ ±10% ¼W, Carbon Fiim
R160	RT10683140	68KΩ ±10% ¼W, Carbon Fiim
R161	RT10683140	68KΩ ±10% ¼W, Carbon Fiim

marantz

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
R162	RT10683140	68KΩ ±10% ¼W, Carbon Fiim
R163	RT10823140	82KΩ ±10% ¼W, Carbon Fiim
R164	RT10823140	82KΩ ±10% ¼W, Carbon Fiim
R167	RT10105140	1MΩ ±10% ¼W, Carbon Fiim
R168	RT10105140	1MΩ ±10% ¼W, Carbon Fiim
R169	RT10152140	1.5 KΩ ±10% ¼W, Carbon Fiim
R170	RT10152140	1.5 KΩ ±10% ¼W, Carbon Fiim
R171	RT10562140	5.6 KΩ ±10% ¼W, Carbon Fiim
R172	RT10562140	5.6 KΩ ±10% ¼W, Carbon Fiim
R173	RT10562140	5.6 KΩ ±10% ¼W, Carbon Fiim
R174	RT10562140	5.6 KΩ ±10% ¼W, Carbon Fiim
R175	RT10563140	56KΩ ±10% ¼W, Carbon Fiim
R176	RT10563140	56KΩ ±10% ¼W, Carbon Fiim
R182	RA05020050	5KΩ (B) ±20% Semi Fixed
C101	DD12100010	10pF ±1pF Cer.
C102	DD12030010	3pF ±1pF Cer.
C103	DK17102010	0.001μF ±20% Cer.
C104	DK17102010	0.001μF ±20% Cer.
C105	DD16150010	15pF ±10% Cer.
C106	DD12050010	5pF ±1pF Cer.
C107	DD15301010	300pF ±5% Cer.
C108	DD11020040	2pF CH ±0.5pF Cer.
C109	DK17102010	0.001μF ±20% Cer.
C110	DD15500010	50pF ±5% Cer.
C111	DD16501010	500pF ±10% Cer.
C112	DK17103010	0.01μF ±20% Cer.
C113	DK17102010	0.001μF ±20% Cer.
C114	DD12070030	7pF CH ±1pF Cer.
C115	DD16150050	15pF N470 ±10% Cer.
C116	DK18403010	0.04μF +100%−20% Cer.
C117	DF17223010	0.02μF ±20% Mylar
C118	DF17153010	0.015μF ±20% Mylar
C119	DD12100010	10pF ±10% Cer.
C120	DF65391010	390pF ±5% Mylar
C121	DK18403010	0.04μF +100%−0% Cer.
C122	EA33600610	6V30μF +100%−20% Elect.
C123	DK18403010	0.04μF +100%−0% Cer.
C124	DD10010010	1pF ±0.25% Cer.
C125	DK17103010	0.01μF ±20% Cer.
C126	DK17103010	0.01μF ±20% Cer.
C127	DD10010010	1pF ±0.25% Cer.
C128	DK17103010	0.01μF ±20% Cer.
C129	DK17103010	0.01μF ±20% Cer.
C130	DK17103010	0.01μF ±20% Cer.
C131	DK17103010	0.01μF ±20% Cer.
C132	DD10010010	1pF ±20% Cer.
C133	DD16300010	30pF ±20% Cer.
C134	DD16501010	500pF ±10% Cer.
C135	DK17103010	0.01μF ±20% Cer.
C136	DK17103010	0.01μF ±20% Cer.
C137	DD15301010	300pF ±5% Cer.
C138	DK18403010	0.04μF +100%−0% Cer.
C139	DK18403010	0.04μF +100%−0% Cer.
C140	DK17502010	0.005μF ±20% Cer.
C142	EA22701640	16V 220μF +100%−20% Elect.
C143	DF17103010	0.01μF ±20% Mylar
C144	DK17103010	0.01μF ±20% Cer.
C145	DD10015010	1.5pF ±0.25pF Cer.
C146	DK17103010	0.01μF ±20% Cer.
C148	DF17472010	0.0047μF ±20% Mylar
C149	DK18403010	0.04μF +100%−0% Cer.
C150	DF17222010	0.0022μF ±20% Mylar
C151	DF17403010	0.04μF ±20% Mylar

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
C152	EA47501620	16V 4.7μF +100%−20% Elect.
C153	DD16201010	200pF ±20% Car.
C154	DD16201010	200pF ±20% Car.
C155	DD16201010	200pF ±20% Car.
C156	EA47501620	16V 4.7μF +100%−20% Elect.
C157	DK18403010	0.04μF +100%−0% Ccr.
C158	EA10601620	16V 10μF +100%−20% Elect.
C159	DF55472010	4700pF ±5% Mylar
C160	DF17472010	0.0047μF ±20% Mylar
C161	DK17103010	0.01μF ±20% Cer.
C162	DF55472010	4700pF ±5% Mylar
C163	DF55472010	4700pF ±5% Mylar
C164	EA10601620	16V 10μF +100%−20% Elect.
C165	EA47501620	16V 4.7μF +100%−20% Elect.
C166	DF16152010	1500pF ±10% Mylar
C167	EA47501620	16V 4.7μF +100%−20% Elect.
C168	EA47501620	16V 4.7μF +100%−20% Elect.
C169	EA47501620	16V 4.7μF +100%−20% Elect.
C170	EA47501620	16V 4.7μF +100%−20% Elect.
C171	DF16562010	0.0056μF ±10% Mylar
C172	DF16562010	0.0056μF ±10% Mylar
C173	DD16201010	200pF ±20% Cer.
C174	EA47501620	16V 4.7μF +100%−20% Elect.
C175	EA47501620	16V 4.7μF +100%−20% Elect.
C176	DF16332010	0.0033μF ±10% Mylar
C177	DF16332010	0.0033μF ±10% Mylar
C178	DF65322010	0.0032μF ±5% Mylar
C179	DF65322010	0.0032μF ±5% Mylar
C180	DF16332010	0.0033μF ±10% Mylar
C181	DF16332010	0.0033μF ±10% Mylar
C182	DF65821010	820pF ±5% Mylar
C183	DF65821010	820pF ±5% Mylar
C184	CT11300010	Trimmer
C185	CT11300010	Trimmer
C188	CA32000100	Variable FM3G, AM2G
C190	CT11000010	Trimmer
H101	HF200191A0	FET 2SK19Y (B)
H102	HT308291B0	Transistor 2SC829 (B)
H103	HT308291B0	Transistor 2SC829 (B)
H104	HT303801B0	Transistor 2SC380 (O)
H105	HT308291D0	Transistor 2SC829 (D)
H106	HT308291D0	Transistor 2SC829 (D)
H107	HC10001050	IC TA7060P
H108	HD10001050	Diode 1N60
H109	HD10001050	Diode 1N60
H110	HD10001050	Diode 1N60
H111	HD10001050	Diode 1N60
H112	HD10001050	Diode 1N60
H113	HT303711B0	Transistor 2SC371 (O)
H114	HT303711A0	Transistor 2SC371 (R)
H115	HD10001050	Diode 1N60
H116	HT307331C0	Transistor 2SC733 (Gn)
H117	HT30373100	Transistor 2SC373
H118	HT30373100	Transistor 2SC373
H119	HT30373100	Transistor 2SC373
H120	HT30373100	Transistor 2SC373
H121	HD10001010	Diode 1N34A
H122	HD10001010	Diode 1N34A
H123	HD10001010	Diode 1N34A
H124	HD10001010	Diode 1N34A
H125	HD10001010	Diode 1N34A
H126	HD10001010	Diode 1N34A
H127	HT306442A0	Diode 2SC644 (S) or (T)

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
H128	HT306442A0	Diode 2SC644 (S) or (T)
L101	LA10046060	FM Ant Coil
L102	LK10505060	FM RF Coil
L103	LL23505050	FM RF Coil
L104	LO12026010	FM OSC
L105	LC16820010	Choke Coil 6.8μH
L106	LC16810010	Choke Coil 0.68μH
L107	LI14016150	FM IFT (1)
L108	LI14016170	FM IFT (2)
L109	LI14016170	FM IFT (3)
L110	LI14016180	FM IFT (4)
L111	LI14016043	FM IFT (5)
L112	LO10010340	AM OSC Coil
L113	LI14010020	AM IFT (1)
L114	LI10010120	AM IFT (2)
L115	LI10010480	AM IFT (3)
L116	LS10015020	MPX Coil 19KHz
L117	LS10015030	MPX Coil 19KHz Doublar
L118	LS10015040	MPX Coil 38KHz
L119	LS10010050	MPX Coil 67KHz
L120	LC22260010	Choke Coil 22mH
L121	LC22260010	Choke Coil 22mH
L122	LC22260010	Choke Coil 22mH
L123	LC22260010	Choke Coil 22mH
J101	YP10000360	Plug
J102	YP10000360	Plug
J103	YP10000360	Plug
J104	YP10000360	Plug
J105	YP10000360	Plug
J106	YP10000360	Plug
J107	YP10000360	Plug
J108	YP10000360	Plug
J109	YP10000360	Plug
J110	YP10000360	Plug
J111	YP10000360	Plug
J112	YP10000360	Plug
J113	YP10000360	Plug
J114	YP10000360	Plug
J115	YP10000360	Plug
J116	YP10000360	Plug
J117	YP10000360	Plug
J118	YP10000360	Plug
J119	YP10000360	Plug
J120	YP10000360	Plug
J121	YP10000360	Plug
J122	YP10000360	Plug
P200	YD26110022	Meter Amp. P.C Board
H201	HT303801B0	Transistor 2SC380 (O)
H202	HD10001050	Diode 1N60
H203	HD10001050	Diode 1N60
L201	LI10156060	IFT 10.7MHz Amp.
R201	RT10223140	22KΩ ±10% ¼W, Carbon Film
R202	RT10103140	10KΩ ±10% ¼W, Carbon Film
R203	RT10102140	1KΩ ±10% ¼W, Carbon Film
R204	RT10272140	2.7KΩ ±10% ¼W, Carbon Film
R205	RT10392140	3.9KΩ ±10% ¼W, Carbon Film
C201	DK17103010	0.01μF ±20% Cer.
C202	DD16201010	200pF ±20% Cer.
C203	DK18403010	0.04μF +100%−0% Cer.
C204	DK18403010	0.04μF +100%−0% Cer.
C205	DK18403010	0.04μF +100%−0% Cer.
J201	YP10000360	Plug
J202	YP10000360	Plug
J203	YP10000360	Plug
J204	YP10000360	Plug
J205	YP10000360	Plug
J206	YP10000360	Plug
J207	YP10000360	Plug
P300	YD27660030	Phono Amp. P.C Board
R301	RT10102140	1KΩ ±10% ¼W, Carbon Film
R302	RT10102140	1KΩ ±10% ¼W, Carbon Film
R303	RT10473140	47KΩ ±10% ¼W, Carbon Film
R304	RT10473140	47KΩ ±10% ¼W, Carbon Film
R305	RN10154140	150KΩ ±10% ¼W, Carbon Film
R306	RN10154140	150KΩ ±10% ¼W, Carbon Film
R307	RT10331140	330Ω ±10% ¼W, Carbon Film
R308	RT10331140	330Ω ±10% ¼W, Carbon Film
R309	RN10224140	220KΩ ±10% ¼W, Carbon Film
R310	RN10224140	220KΩ ±10% ¼W, Carbon Film
R311	RT10821140	820Ω ±10% ¼W, Carbon Film
R312	RT10821140	820Ω ±10% ¼W, Carbon Film
R313	RN10153140	15KΩ ±10% ¼W, Carbon Film
R314	RN10153140	15KΩ ±10% ¼W, Carbon Film
R315	RT05153140	15KΩ ± 5 % ¼W, Carbon Film
R316	RT05153140	15KΩ ± 5 % ¼W, Carbon Film
R317	RT05184140	180KΩ ± 5 % ¼W, Carbon Film
R318	RT05184140	180KΩ ± 5 % ¼W, Carbon Film
R319	RN10224140	220KΩ ±10% ¼W, Carbon Film
R320	RN10224140	220KΩ ±10% ¼W, Carbon Film
R321	RT10822140	8.2KΩ ±10% ¼W, Carbon Film
R322	RT10822140	8.2KΩ ±10% ¼W, Carbon Film
C301	EV33502510	3.3μF 25V +40%−20% Elect.
C302	EV33502510	3.3μF 25V +40%−20% Elect.
C303	DF16183010	0.018μF 50V ±10% Mylar
C304	DF16183010	0.018μF 50V ±10% Mylar
C305	DF16472010	4700pF 50V ±10% Mylar
C306	DF16472010	4700pF 50V ±10% Mylar
C307	DD16500010	50pF 50V ±10% Cer.
C308	DD16500010	50pF 50V ±10% Cer.
C309	EA33600610	33μF 6V +100%−0% Elect.
C310	EA33600610	33μF 6V +100%−0% Elect.
C313	EV47402510	0.47μF 25V +40%−20% Elect.
C314	EV47402510	0.47μF 25V +40%−20% Elect.
C315	EA22702510	220μF 25V +100%−0% Elect.
C316	EA22702510	220μF 25V +100%−0% Elect.
J301	YP10000360	Plug
J302	YP10000360	Plug
J303	YP10000360	Plug
J304	YP10000360	Plug
J305	YP10000360	Plug
J306	YP10000360	Plug
J307	YP10000360	Plug
H301	HT306441B0	Transistor 2SC644 (S)
H302	HT306441B0	Transistor 2SC644 (S)
H303	HT306441A0	Transistor 2SC644 (R)
H304	HT306441A0	Transistor 2SC644 (R)
P400	YD27660040	Pre & Main Amp. P.C Board
R401	RT10102140	1KΩ ±10% ¼W, Carbon Film
R402	RT10102140	1KΩ ±10% ¼W, Carbon Film
R403	RN10474140	470KΩ ±10% ¼W, Carbon Film
R404	RN10474140	470KΩ ±10% ¼W, Carbon Film
R405	RN10224140	220KΩ ±10% ¼W, Carbon Film
R406	RN10224140	220KΩ ±10% ¼W, Carbon Film
R407	RT05331140	330Ω ± 5 % ¼W, Carbon Film
R408	RT05331140	330Ω ± 5 % ¼W, Carbon Film
R409	RT05103140	10KΩ ± 5 % ¼W, Carbon Film

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REF. DESIG.	MARANTZ PART NO.		DESCRIPTION
R410	RT05103140	10KΩ	±5% ¼W, Carbon Film
R411	RT10682140	6.8KΩ	±10% ¼W, Carbon Film
R412	RT10682140	6.8KΩ	±10% ¼W, Carbon Film
R413	RT10681140	680Ω	±10% ¼W, Carbon Film
R414	RT10681140	680Ω	±10% ¼W, Carbon Film
R415	RT10471140	470Ω	±10% ¼W, Carbon Film
R416	RT10471140	470Ω	±10% ¼W, Carbon Film
R417	RT10822140	8.2KΩ	±10% ¼W, Carbon Film
R418	RT10822140	8.2KΩ	±10% ¼W, Carbon Film
R419	RT10682140	6.8KΩ	±10% ¼W, Carbon Film
R420	RT10682140	6.8KΩ	±10% ¼W, Carbon Film
R421	RT10102140	1KΩ	±10% ¼W, Carbon Film
R422	RT10102140	1KΩ	±10% ¼W, Carbon Film
R423	RT10101140	100Ω	±10% ¼W, Carbon Film
R424	RT10101140	100Ω	±10% ¼W, Carbon Film
R425	RT10221140	220Ω	±10% ¼W, Carbon Film
R426	RT10221140	220Ω	±10% ¼W, Carbon Film
R427	RT10222140	2.2KΩ	±10% ¼W, Carbon Film
R428	RT10222140	2.2KΩ	±10% ¼W, Carbon Film
R429	RT10104140	100KΩ	±10% ¼W, Carbon Film
R430	RT10104140	100KΩ	±10% ¼W, Carbon Film
R431	RN10154140	150KΩ	±10% ¼W, Carbon Film
R432	RN10154140	150KΩ	±10% ¼W, Carbon Film
R433	RT10821140	820Ω	±10% ¼W, Carbon Film
R434	RT10821140	820Ω	±10% ¼W, Carbon Film
R435	RN10155140	1.5MΩ	±10% ¼W, Carbon Film
R436	RN10155140	1.5MΩ	±10% ¼W, Carbon Film
R437	RT10223140	22KΩ	±10% ¼W, Carbon Film
R438	RT10223140	22KΩ	±10% ¼W, Carbon Film
R439	RT10562140	5.6KΩ	±10% ¼W, Carbon Film
R440	RT10562140	5.6KΩ	±10% ¼W, Carbon Film
R441	RT05392140	3.9KΩ	±10% ¼W, Carbon Film
R442	RT05392140	3.9KΩ	±10% ¼W, Carbon Film
R443	RT10821140	820Ω	±10% ¼W, Carbon Film
R444	RT10821140	820Ω	±10% ¼W, Carbon Film
R445	RT05101140	100Ω	±5% ¼W, Carbon Film
R446	RT05101140	100Ω	±5% ¼W, Carbon Film
R447	RT10153140	15KΩ	±10% ¼W, Carbon Film
R448	RT10153140	15KΩ	±10% ¼W, Carbon Film
R449	RT10123140	12KΩ	±10% ¼W, Carbon Film
R450	RT10123140	12KΩ	±10% ¼W, Carbon Film
R451	RN10104140	100KΩ	±10% ¼W, Carbon Film
R452	RN10104140	100KΩ	±10% ¼W, Carbon Film
R453	RA01040060	100KΩ	(B) Semi Fixed
R454	RA01040060	100KΩ	(B) Semi Fixed
R455	RA05010010	500Ω	(B) Semi Fixed
R456	RA05010010	500Ω	(B) Semi Fixed
R457	RC10331120	330Ω	±10% ½W, Solid
R458	RC10331120	330Ω	±10% ½W, Solid
R459	RC10392120	3.9KΩ	±10% ½W, Solid
R460	RC10392120	3.9KΩ	±10% ½W, Solid
R461	RT10101140	100Ω	±10% ¼W, Carbon Film
R462	RT10101140	100Ω	±10% ¼W, Carbon Film
R463	RT10822140	8.2KΩ	±10% ¼W, Carbon Film
R464	RT10822140	8.2KΩ	±10% ¼W, Carbon Film
R465	RC10220120	22Ω	±10% ½W, Solid
R466	RC10220120	22Ω	±10% ½W, Solid
R467	RC10221120	220Ω	±10% ½W, Solid
R468	RC10221120	220Ω	±10% ½W, Solid
R469	RC10221120	220Ω	±10% ½W, Solid
R470	RC10221120	220Ω	±10% ½W, Solid
R471	RC10220120	22Ω	±10% ½W, Solid
R472	RC10220120	22Ω	±10% ½W, Solid

REF. DESIG.	MARANTZ PART NO.		DESCRIPTION
R473	RC10220120	22Ω	±10% ½W, Solid
R474	RC10220120	22Ω	±10% ½W, Solid
R475	GW10502020	0.5Ω	±10% 2 W, Carbon Film
R476	GW10502020	0.5Ω	±10% 2 W, Carbon Film
R477	GW10502020	0.5Ω	±10% 2 W, Carbon Film
R478	GW10502020	0.5Ω	±10% 2 W, Carbon Film
C401	DF17224020	0.22μF	50V ±20% Mylar
C402	DF17224020	0.22μF	50V ±20% Mylar
C403	DD16200010	20pF	50V ±10% Cer.
C404	DD16200010	20pF	50V ±10% Cer.
C405	EA10602510	10μF	25V +100%−0% Elect.
C406	EA10602510	10μF	25V +100%−0% Elect.
C407	EA33601010	33μF	10V Elect.
C408	EA33601010	33μF	10V Elect.
C409	EV33502510	3.3μF	25V +40%−20% Elect.
C410	EV33502510	3.3μF	25V +40%−20% Elect.
C411	EA22702520	220μF	25V +100%−0% Elect.
C412	EA22702520	220μF	25V +100%−0% Elect.
C413	DF17332010	0.0033μF	50V ±20% Mylar
C414	DF17332010	0.0033μF	50V ±20% Mylar
C415	EV47402510	0.47μF	25V +40%−20% Elect.
C416	EV47402510	0.47μF	25V +40%−20% Elect.
C417	EA47601630	47μF	16V +100%−0% Elect.
C418	EA47601630	47μF	16V +100%−0% Elect.
C419	EA33601010	33μF	10V +100%−0% Elect.
C420	EA33601010	33μF	10V +100%−0% Elect.
C421	EA10701010	100μF	10V +100%−0% Elect.
C422	EA10701010	100μF	10V +100%−0% Elect.
C423	EA10603510	10μF	35V +100%−0% Elect.
C424	EA10603510	10μF	35V +100%−0% Elect.
C425	EA22702520	220μF	25V +100%−0% Elect.
C426	EA22702520	220μF	25V +100%−0% Elect.
C427	EA47603520	47μF	35V +100%−0% Elect.
C428	EA47603520	47μF	35V +100%−0% Elect.
C429	DD15400010	40pF	50V ±10% Cer.
C430	DD15400010	40pF	50V ±10% Cer.
C431	EA47603520	47μF	35V +100%−0% Elect.
C432	EA47603520	47μF	35V +100%−0% Elect.
C433	EA10700610	100μF	6.3V +100%−0% Elect.
C434	EA10700610	100μF	6.3V +100%−0% Elect.
C435	EA22603510	22μF	35V +100%−0% Elect.
C436	EA22603510	22μF	35V +100%−0% Elect.
C437	EB22803520	2200μF	35V +100%−0% Elect.
C438	EB22803520	2200μF	35V +100%−0% Elect.
C439	DF17104520	0.1μF	200V ±20% Mylar
C440	DF17104520	0.1μF	200V ±20% Mylar
C443	DD16101010	100pF	50V ±10% Cer.
C444	DD16101010	100pF	50V ±10% Cer.
C445	DD16201010	200pF	50V ±10% Cer.
C446	DD16201010	200pF	50V ±10% Cer.
H401	HT304580Y0	Transistor	2SC458LG.C
H402	HT304580Y0	Transistor	2SC458LG.C
H403	HT307321B0	Transistor	2SC732BL
H404	HT307321B0	Transistor	2SC732BL
H405	HT304580Y0	Transistor	2SC458LG.C
H406	HT304580Y0	Transistor	2SC458LG.C
H407	HT303731O0	Transistor	2SC373
H408	HT303731O0	Transistor	2SC373
H409	HT309841B0	Transistor	2SC984B
H410	HT309841B0	Transistor	2SC984B
H411	HT309841B0	Transistor	2SC984B
H412	HT309841B0	Transistor	2SC984B
H413	HT105651B0	Transistor	2SA565B

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
H414	HT105651B0	Transistor 2SA565B
H415	HV00007050	Varistor S−3016R
H416	HV00007050	Varistor S−3016R
H421	HD20003010	Diode HR−5A
H422	HD20003010	Diode HR−5A
J 401	YP10000360	Plug
J 402	YP10000360	Plug
J 403	YP10000360	Plug
J 404	YP10000360	Plug
J 405	YP10000360	Plug
J 406	YP10000360	Plug
J 407	YP10000360	Plug
J 408	YP10000360	Plug
J 409	YP10000360	Plug
J 410	YP10000360	Plug
J 411	YP10000360	Plug
J 412	YP10000360	Plug
J 413	YP10000360	Plug
J 414	YP10000360	Plug
J 415	YP10000360	Plug
J 416	YP10000360	Plug
J 417	YP10000360	Plug
J 418	YP10000360	Plug
J 419	YP10000360	Plug
J 420	YP10000360	Plug
J 421	YP10000360	Plug
J 422	YP10000360	Plug
J 423	YP10000360	Plug
J 424	YP10000360	Plug
J 425	YP10000360	Plug
J 426	YP10000360	Plug
J 427	YP10000360	Plug
J 428	YP10000360	Plug
J 429	YP10000360	Plug
J 430	YP10000360	Plug
J 431	YP10000360	Plug
J 432	YP10000360	Plug
J 433	YP10000360	Plug
J 434	YP10000360	Plug
P500	YD26110052	P.C Board
R501	RC10271010	270Ω ±10% 1 W, Solid
R502	RC10201010	200Ω ±10% 1 W, Solid
C501	EA22701040	220μF 10V Elect.
C502	EA47701620	470μF 16V Elect.
C503	EB33805010	3300μF 50V Elect.
C504	EA47702520	470μF 25V Elect.
C505	DK18103510	0.01μF 500V Cer.
C506	DK18103510	0.01μF 500V Cer.
C507	EA47703510	470μF 35V Elect.
J 501	YP10000360	Plug
J 502	YP10000360	Plug
J 503	YP10000360	Plug
J 504	YP10000360	Plug
J 505	YP10000360	Plug
J 506	YP10000360	Plug
J 507	YP10000360	Plug
J 508	YP10000360	Plug
J 509	YP10000360	Plug
J 510	YP10000360	Plug
J 511	YP10000360	Plug
J 512	YP10000360	Plug
H501	HD30010090	Diode 1S336
H502	HD20003010	Diode HR−5A

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
H503	HD20003010	Diode HR−5A
H504	HD20003010	Diode HR−5A
H505	HD20017070	Diode 1S1071
H506	HD20017070	Diode 1S1071
H507	HD20017070	Diode 1S1071
H508	HD20017070	Diode 1S1071
P600	YD27600060	P.C Board
R601	RT10103140	10KΩ ±10% ¼W, Carbon Film
R602	RT10103140	10KΩ ±10% ¼W, Carbon Film
R603	RT10122140	1.2KΩ ±10% ¼W, Carbon Film
R604	RT10122140	1.2KΩ ±10% ¼W, Carbon Film
R605	RT10154140	150KΩ ±10% ¼W, Carbon Film
R606	RT10154140	150KΩ ±10% ¼W, Carbon Film
R607	RT10103140	10KΩ ±10% ¼W, Carbon Film
R608	RT10103140	10KΩ ±10% ¼W, Carbon Film
C601	DF17333010	0.033μF ±20% Mylar
C602	DF17333010	0.033μF ±20% Mylar
C603	DD16101010	100pF ±10% Cer.
C604	DD16101010	100pF ±10% Cer.
C605	DF17333010	0.033μF ±20% Mylar
C606	DF17333010	0.033μF ±20% Mylar
S601	SP04020012	Tape Mon/Stereo Push Switch
1~2	Y	
J 601	YP10000360	Plug
J 602	YP10000360	Plug
J 603	YP10000360	Plug
J 604	YP10000360	Plug
J 605	YP10000360	Plug
J 606	YP10000360	Plug
J 607	YP10000360	Plug
P700	YD25770070	P.C Board
H701	HD20003010	Diode HR−5A
H702	HD20003010	Diode HR−5A
H703	HD20003010	Diode HR−5A
H704	HD20003010	Diode HR−5A
R005	RT10272140	2.7KΩ ±10% ¼W, Carbon Film
R006	RT10272140	2.7KΩ ±10% ¼W, Carbon Film
R007	RC10471120	470Ω ±10% ½W, Solid
R008	RC10471120	470Ω ±10% ½W, Solid
R009	RT10225010	2.2MΩ ±10% 1 W, Carbon Film
R012	RM02540080	250KΩ (M.N) Variable
R013	RM01040022	100KΩ (A) Variable
R014	RM05030110	50KΩ Variable
R015	RM05030110	50KΩ Variable
C001	EA10700650	6V 100μF +100%−20% Elect.
C002	DK17103010	0.01μF ±20% Cer.
C003	DO07473530	0.047μF AC400V Oil Cap.
C008	DF17333010	0.033μF ±20% Mylar
C009	DF17333010	0.033μF ±20% Mylar
C010	DF17224020	0.22μF ±20% Mylar
C011	DF17224020	0.22μF ±20% Mylar
H001	HT402572A0	Transistor 2SD257 (R or O)
H002	HT402572A0	Transistor 2SD257 (R or O)
H003	HT402572A0	Transistor 2SD257 (R or O)
H004	HT402572A0	Transistor 2SD257 (R or O)
L001	LF11400360	AM Ant. Coil
L003	TS18501070	Power Transf.
W001	YW27880010	Wire Materials
W002	YX27880010	Wire Materials
J 017	YJ08000090	Fuse Holder Socket
J 018	YJ08000090	Fuse Holder Socket
J 019	YJ08000090	Fuse Holder Socket
J 020	YJ08000090	Fuse Holder Socket

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
J 021	YL01030010	3P Terminal for AC
J 022	YJ04000090	AC Input Socket
J 001	YJ11000040	Socket for FM Ant.
J 002	YJ11000030	Socket for MW/LW
J 003	YJ11000010	Socket for Phono Input
J 004	YJ01000550	Jack for Head Phone
J 005	YJ11000010	Socket for Aux Input
J 006	YJ11000010	Socket for Tape Play/Rec
J 007	YL01030010	Terminal for AC
J 008	YT01010030	Terminal for Ground
J 009	YJ02000100	Socket for Pilot Lamp
J 010	YJ02000010	Socket for Pilot Lamp
J 011	YJ02000650	Socket for Meter Lamp
J 012	YJ02000070	Socket for Stereo Lamp
J 013	YJ11000020	Socket for Speaker
J 014	YJ11000020	Socket for Speaker
J 015	YJ11000020	Socket for Speaker
J 016	YJ11000020	Socket for Speaker
M001	IM11024060	DC Meter for Tuning
M002	IN10080010	Lamp for Stereo Beacon
M003	IN10060030	Lamp for Pilot Lamp
M004	IN10060030	Lamp for Pilot Lamp
M005	IN10060030	Lamp for Meter
S 001	SR02030032	Rotary Switch for Speaker
S 002	SR05050010	Rotary Switch for Function
S 003	SR06050060	Rotary Switch for Function
S 004	SP04010062	Push Switch for Power ON−OFF
F001	FS10050030	Fuse 0.5A
F002	FS10050030	Fuse 0.5A
F003	FS10100030	Fuse 1 A
F004	FS10100030	Fuse 1 A
P800	YD27880080	P.C Board (LW)
R801	RT10153140	15KΩ ±10% ¼W, Carbon Film
R802	RT10563140	56KΩ ±10% ¼W, Carbon Film
C801	CT41400020	Trimmer
C804	DD12050010	5pF ±1pF Cer.
C805	DD16121010	120pF ±10% Cer.
C806	DF17103010	0.01μF ±20% Mylar
C807	DD16201010	200pF ±10% Cer.
C808	DF66101010	100pF ±5% Mylar
C809	DD16300010	30pF ±10% Cer.
L801	LC12240010	Choke Coil 220μH
L802	LA10010150	Ant. Coil (LW)
L803	LO10010170	OSC Coil (LW)
J 801	YP10000360	Plug
J 802	YP10000360	Plug
J 803	YP10000360	Plug
J 804	YP10000360	Plug
J 805	YP10000360	Plug
J 806	YP10000360	Plug
J 807	YP10000360	Plug
J 808	YP10000360	Plug